Internet Telephony Gateway

User's manual

VIP-110/VIP-210

release 1.0
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Revision

User's Manual for PLANET Internet Telephony Gateway

Model: VIP-110/VIP-210

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Part No. EM-VIP210V1

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Introduction

Overview

In the past, real-time voice communication can only be performed on the PSTN. With the growth of Internet technology, Internet telephony service plays and turns into a cost-effective and highly reliable substitution system of the old-time traditional PBX system. PLANET VoIP (Voice over IP) system – VIP-110/VIP-210 offers toll quality voice and real-time fax data over IP networks. With optimized H323 architecture, PLANET VIP series are ideal solution for various VoIP applications such as Headquarter and Branch Office communication, and IDD cost-effective solution. With its intuitive user-friendly interface, PLANET VIP series may be installed easily conveniently, and dramatically down cost the huge amount of IDD fee.

With embedded, efficient Real-Time Operating System, VIP-110/VIP-210 provides efficiency and feature enhancement capabilities; being programmed with updated firmware users may have the most flexibility and functionality to meet different kind of application requirement. It comes equipped with remote management capabilities, configurable signaling to work with PBX, KTS, and/or telephone. Building on state-of-the-art advanced VoIP related technology. PLANET VIP-110/VIP-210 offers various features: echo cancellation, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), lost packet recovery algorithms and optimized voice and FAX coders to bring users superior voice quality, and best compatibility with major Internet telephony service providers.

More than these, PLANET VIP-110/VIP-210, not only provides quality voice communications and real-time fax over IP networks, but also offers Internet sharing capabilities with other LAN users. With an optimized H.323 and routing architecture, the PLANET VIP-110/VIP-210 is the ideal choice for Voice over IP communications and providing integrated Internet sharing features, such as Virtual server, policy based firewall protection, QoS and DMZ support; with these features, users may now enjoy high quality voice calls and secure Internet access without interfering with routine activities.

VIP-110/VIP-210 Features

- **Standards compliant & excellent voice quality**
  The PLANET VIP-110/VIP-210 is H.323 standard version 3 compliant (including H.323 fast-start mode). The VIP-110/VIP-210 is interoperable with 3rd party voice gateways as well as other PLANET VoIP products. Retaining the tradition of excellence in PLANET VoIP products, the VIP-110/VIP-210 can prioritize voice packets using IP precedence, and combines state-of-the-art technology of voice packet handling, including echo, noise reduction, voice reconstruction and redundancy to provide customers toll quality VoIP communication.

- **VoIP, FoIP and Network conversion**
  Via configurable voice codec: G.723, G.729ab, G.711mu and FAX: T.30, T.38, the VIP-110/VIP-210 provides support for multiple algorithms to meet different VoIP application demands. The VIP-110/VIP-210 supports conversion of telephony protocols (SS7, Analog (FXS/FXO)) into a packet switching network between calling and called voice gateways or a PBX system, in a heterogeneous signal-switching environment.

- **Domain name call & DDNS supports**
  Either IP or URL addressing, the VIP-110/VIP-210 is able to locate and communicate with destination H.323 gateways and terminals. The DDNS service is supported for those VoIP gateways deployed in a dynamic IP environment. The combination of connection agents (PPPoE, or DHCP clients) and a built-in DDNS client can help those who do not have static IP addresses by mapping dynamic IP addresses to an easy-to-remember URL, allowing other 3rd party voice gateways and terminals to locate the position of the VIP in a simple manner. (To establish voice communication via domain name, please make sure the other party gateway/terminal supports domain name calling.)

- **Internet sharing, easy setup and network administration**
  Via internal PPPoE/DHCP/fixed IP allocation agents, the VIP-110/VIP-210 establishes Internet access via a single user account and shares Internet resource with everyone on your office network. Via an intuitive user interface, network administration or IT personnel can complete an Internet connection in just minutes! System administrators can logon to the machine locally from the LAN or remotely check machine or network status and perform administration or trouble-shooting from anywhere in the world.

- **NAT Optimization, Firewall policy packet filtering and QoS mechanism**
  The VIP-110/VIP-210 provides user definable policy-based firewall protection, and a packet filtering mechanism to prevent business or residential network from malicious attacks or in-

trusion. The firewall policy offers VoIP administrators access control privilege choices to apply to LAN users to restrict Internet access or prevent improper use.

- **Virtual Server, DMZ & Internet application capability**
  With Virtual server, special applications, and DMZ features, the VIP-110/VIP-210 shares the LAN resources for Internet users, and provides various Internet application compatibility in a more convenient way.

Package Content

The contents of your product should contain the following items:

VIP-110 or VIP-210 unit

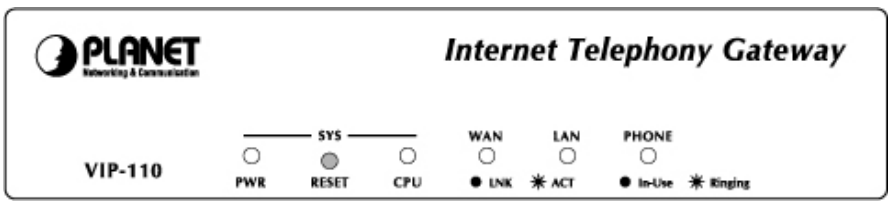
Power adapter

Quick Installation Guide

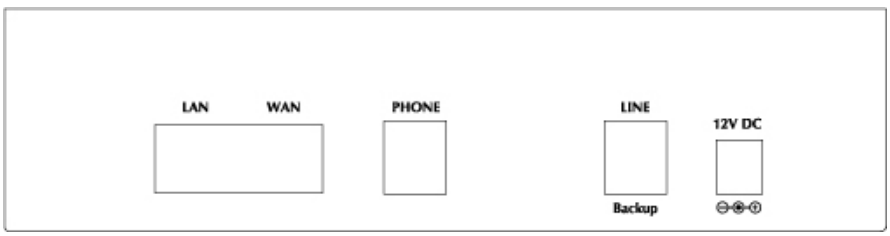
User's Manual CD

Physical Details

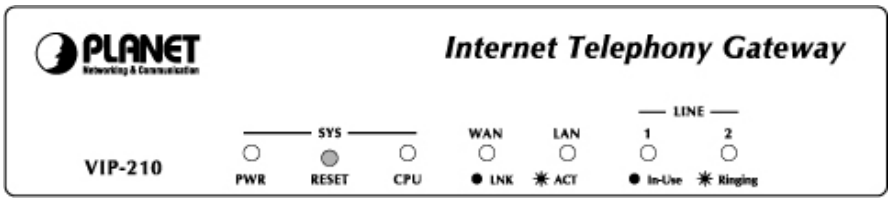
The front panel of VIP-110/VIP-210 contains a push button and 5/6 LED indicators. The following figure illustrates the front/rear panel of VIP-110/VIP-210.



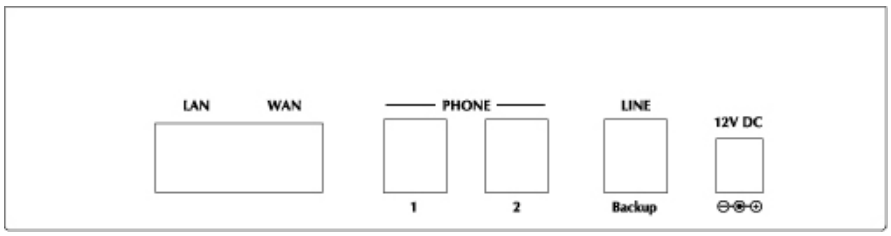
VIP-110 Front Panel



VIP-110 Rear Panel



VIP-210 Front Panel



VIP-210 Rear Panel

LED Display & Button

Indicator	Color	Activity	Indication
PWR	Green	On	Power is supplied to the gateway.
CPU	Green	Blinking	The system is running. (Heartbeat LED)
LAN			
Ÿ ACT	Green	On	Data is presented on LAN.
Ÿ LNK	Green	On	The gateway is connected to LAN.
WAN			
Ÿ ACT	Green	On	Data is presented on WAN.
Ÿ LNK	Green	On	The gateway is connected to WAN.
PHONE/LINE	Green	Off	The line is idle.
Voice Channels		On	The line is being used.
		Blinking	The line is ringing.

Physical Interfaces

VIP-110/VIP-210 is equipped with a WAN interface with 10/100 Mbps auto-negotiation capability, 1 LAN Ethernet ports with 10/100 Mbps auto-negotiation capability. In addition to the LAN/WAN Ethernet interface ports, One (VIP-110) / two (VIP-210) RJ-11 telephony interface ports on the rear panel. Their functions are described below:

Port	Label	Function
RJ-45	LAN	Connecting VIP to a 10/100 Mbps Ethernet network
RJ-45	WAN	Connecting VIP to a 10/100 Mbps Ethernet network / xDSL /Cable modem for Internet access
RJ-11	Telephony	Connect PBX Extension line/Telephone to VIP for voice communication

Reset Button

There is a push button located behind a small hole next to the PWR LED. This button allows you to reset VIP or force VIP to enter firmware upgrade mode.

Reset

Push a small, stiff object into the hole until the SYSTEM LED stops blinking, then release the button.

Physical Installation and IP Configuration

This chapter illustrates basic installation of VIP-110/VIP-210

Physical Installation Requirement

- Network cables. Use standard 10/100BaseT network (UTP) cables with RJ45 connectors.
- TCP/IP protocol must be installed on all PCs.

For Internet Access, an Internet Access account with an ISP, and either of a DSL or Cable modem (for WAN port usage)

Procedure

1. Choose an Installation Site

Select a suitable place on the network to install VIP–110/VIP-210.

Ensure VIP–110/VIP-210 and the DSL/Cable modem are powered OFF.

2. Connect LAN Cables

- Use standard LAN cables to connect PCs to the Switching Hub ports on VIP–110/VIP-210. Both 10BaseT and 100BaseT connections can be used simultaneously.
- If required, you can connect any LAN port to another Hub. Any LAN port on VIP–110/VIP-210 will automatically function as an "Uplink" port when required. Just connect any LAN port to a normal port on the other hub, using a standard LAN cable.

3. Connect WAN Cable

Connect the DSL or Cable modem to the WAN port on VIP–110/VIP-210. Use the cable supplied with your DSL/Cable modem. If no cable was supplied, use a standard cable.

4. Power Up

- Power on the Cable or DSL modem.
- Connect the supplied power adapter to VIP–110/VIP-210 and power up.

Use only the power adapter provided. Using a different one may cause hardware damage

5. Check the LEDs

- The *PWR* LED should be ON.
- The *CPU* LED should flash.
- For each LAN (PC) connection, the LAN *LNK/ACT* LED should be ON (provided the PC is also ON.)
- The *WAN* LED should be ON.

6. Connecting to the telephony devices

VIP-110/VIP-210 supports one types telephony the FXS (Foreign eXchange Station). FXS interface is used to connect to regular analog telephone sets or FAX machine

ë Note `Connection of incorrect telephony devices to the ports on the TIM can cause permanent damage to the TIM and/or VIP.`

Administration Interface

PLANET VIP-110/VIP-210 provides CLI (Command Line Interface), and GUI (Web based, Graphical User Interface) for machine management and administration.

Web configuration access:

To start VIP-110/VIP-210 web configuration, you must have one of these web browsers installed on computer for management

- Netscape Communicator 4.03 or higher
- Microsoft Internet Explorer 4.01 or higher with Java support

Default LAN interface IP address of VIP-110/VIP-210 is **192.168.0.1**. You may now open your web browser, and insert ***192.168.0.1*** in the address bar of your web browser to logon VIP-110/VIP-210 web configuration page.

VIP-110/VIP-210 will prompt for logon username/password, please enter: ***admin*** / ***123*** to continue machine administration.

ë Note

Please locate your PC in the same network segment (192.168.0.x) of VIP-110/VIP-210. If you're not familiar with TCP/IP, please refer to related chapter on user's manual CD or consult your network administrator for proper network configurations.

CLI configuration access:

- You can connect the VIP-110/VIP-210 via telnet terminal program
- Start up your terminal program, here, we use Hyper Terminal as the example.
- Set up the parameters as below for Telnet connection

  Host Address: **192.168.0.1**
  Port Number: **23**
  Connect Using: **TCP/IP (WinSock)**

- When connected, you'll be asked to insert the username/password for machine administration, please enter "**admin**/**123**" for authentication. After logging in, the terminal will prompt "ITG>" to indicate your machine is now ready for operation.

ë **Note**

If you cannot get any response from the terminal program after strike "**Enter**" key several times. Please check the TCP/IP configurations of your computer, i.e. the destination VIP should be ***reachable*** by your PC. Then check the parameters above again. If all the network parameters are correctly configured, it is recommended to check if the network cabling is secure.

LAN/WAN Interface quick configurations

Nature of PLANET VIP-110/VIP-210 is an IP Sharing (NAT) device, it comes with two default IP addresses, and default LAN side IP address is "**192.168.0.1**", default WAN side IP address is "**172.16.0.1**". You may use any PC to connect to the LAN port of VIP-110/VIP-210 to start machine administration.,

i Hint

In general cases, the LAN IP address is the default gateway of LAN side workstations for Internet access, and the WAN IP of VIP-110/VIP-210 is the IP address for remote calling party to connect with.

LAN IP configuration via command line interface (CLI)

Here we'd like to configure the IP address of VIP-110/VIP-210 LAN interface, LAN IP address related commands are:

```
ITG>net set lan
net set lan ip <addr>
net set lan mask <mask>
ITG>
```

- The command "***net set lan ip***" is used to set the IP address of VIP. If you would like to set up the IP address to "192.168.0.1", for example. You can have the command as below and press the <**Enter**> key:

```
ITG>net set lan ip 192.168.0.1<enter>
```

- The command "***net set lan mask***" is used to set the network mask of VIP. If you would like to set up the network mask to "255.255.255.0", for example. You can have the command as below and press the <**Enter**> key:

```
ITG>net set lan mask 255.255.255.0
```

You'll need to save the configured LAN IP address, network mask value into machine via command: ***net store*** , then insert command: ***net reset*** to reboot machine and make thechanges effective.

Preparation before beginning web administration on VIP-110/VIP-210

In this section, we'll introduce steps of how to setup a PC to communicate with VIP-110/VIP-210 and Internet access related parameters through TCP/IP protocol configuration.

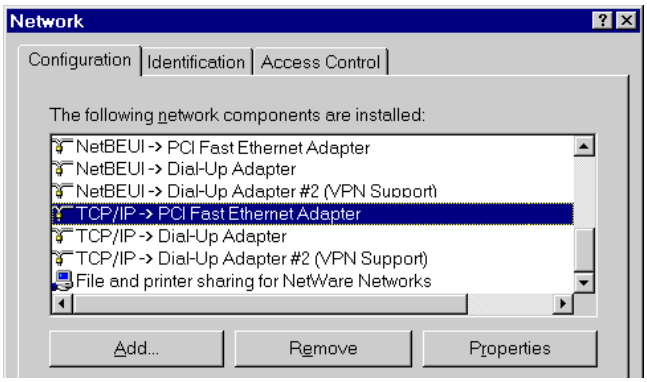
Before starting web browser to connect to VIP-110/VIP-210, please check TCP/IP configurations on PC: the PC must be configured either as a DHCP client and or fixed IP allocation on the intranet or Internet. After ensuring TCP/IP configuration on the managing workstation, you may connect to web administration page of VIP-110/VIP-210 either from intranet, or Internet

Following are guidelines of setting up TCP/IP configurations on different OS platform

Checking TCP/IP settings on Windows 95/98

If there is no TCP/IP installed on your Windows 95 or Windows 98, you must add the protocol and change the settings on your PC.

Step 1 Open the ***Control Panel***, and double-click the ***Network*** icon. The Network window appears



Step 2 If TCP/IP protocol shown in the network window, please continue to the next step. If it is not shown, please add TCP/IP protocol support as follows:

a. Click ***Add***.

b. Double-click ***Protocol*** in the Select Network Component Type window, then the Select Network Protocol window appears.

c. Choose ***Microsoft*** for the manufacturer.

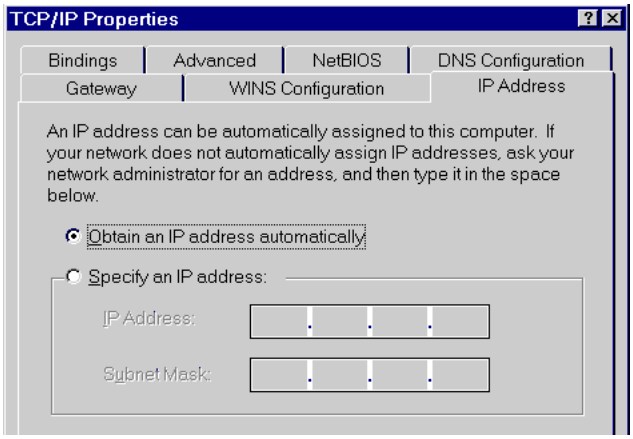
d. Choose ***TCP/IP*** for the network protocol.

e. Click ***OK,*** and the Network window appears.

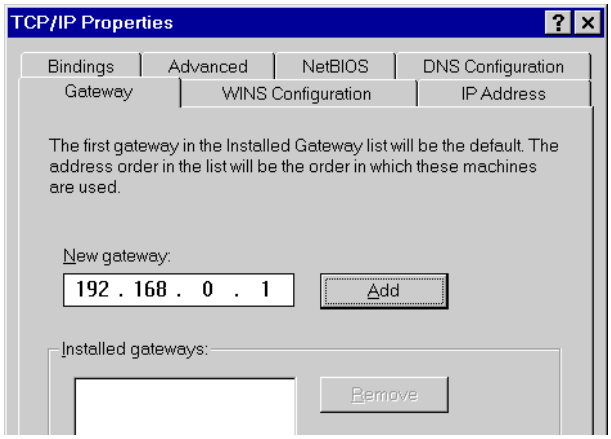
Step 3.1 Change the TCP/IP settings to use DHCP as follows (***DHCP environment***):

a. Double-click the first TCP/IP cable icon. The TCP/IP Properties window appears.

b. Verify that the IP Address tab has Obtain an IP address automatically selected and that the IP Address and Subnet Mask fields are grayed out.


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:

Step 3.2 Change the TCP/IP settings to use DHCP as follows (***Fixed IP allocation***):
If there is no DHCP server in your network, please consult your network administrator the TCP/IP parameters of your PC, and insert the obtained data in IP address tab. To access different IP segment (for example, from LAN to Internet), you will need to assign the gateway and DNS (for Internet access) in your PC.



Step 5 Add the DNS server given to you by your ISP or network administrator:

a. Click the ***DNS Configuration*** tab.

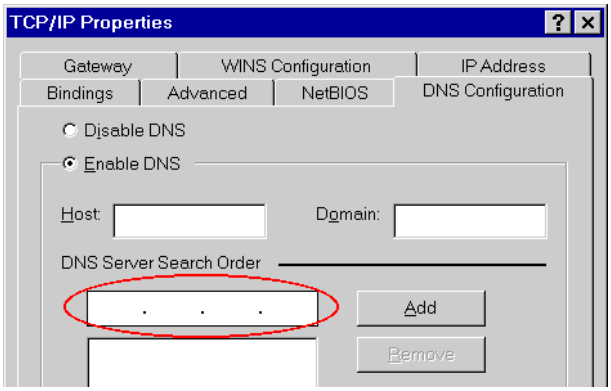
b. Click ***Enable DNS***.

c. Enter your host name in the ***Host*** field.

d. Enter your domain name in the ***Domain*** field.

e. Enter the IP address of the DNS server in the ***DNS Server Search Order*** field.

f. Click ***Add***. The IP address displays in the window below the field.

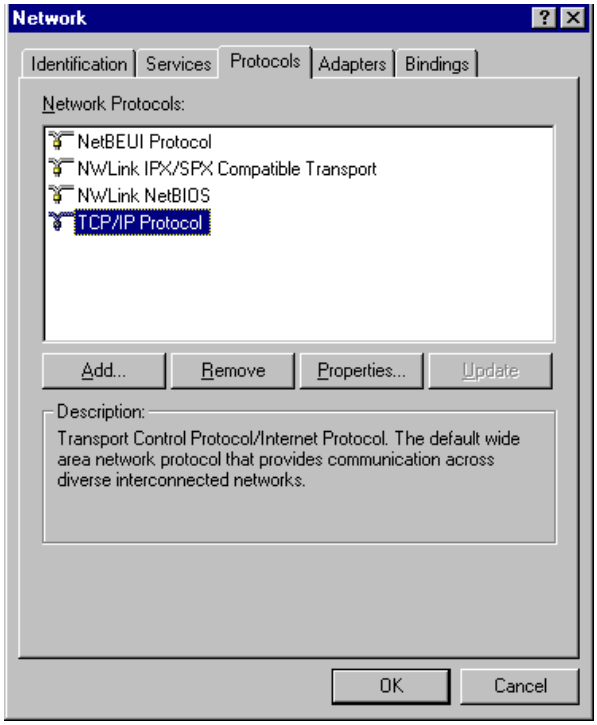


Step 5 Click ***OK*,** and reboot machine to make the modifications effective in your PC.

Checking TCP/IP settings on Windows NT

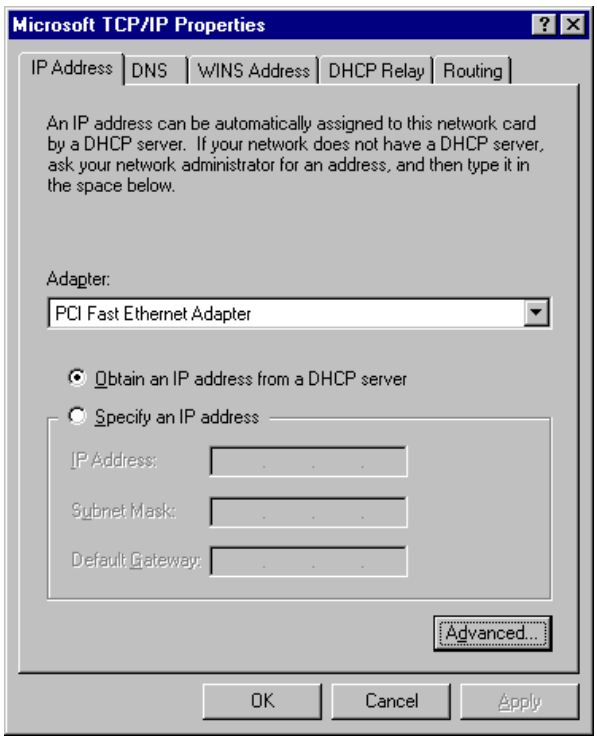
Obtain an IP address from a DHCP Server

Select ***Control Panel*** - ***Network,*** and, on the ***Protocols*** tab, select the TCP/IP protocol, as shown below.



Windows NT4.0 - TCP/IP

a) Click the ***Properties*** button to see a screen like the one below.


Microsoft TCP/IP Properties
IP Address
DNS
WINS Address
DHCP Relay
Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adapter:
PCI Fast Ethernet Adapter
Obtain an IP address from a DHCP server
Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Advanced...
OK
Cancel
Apply

Windows NT4.0 - IP Address

b) Select the network card for your LAN.

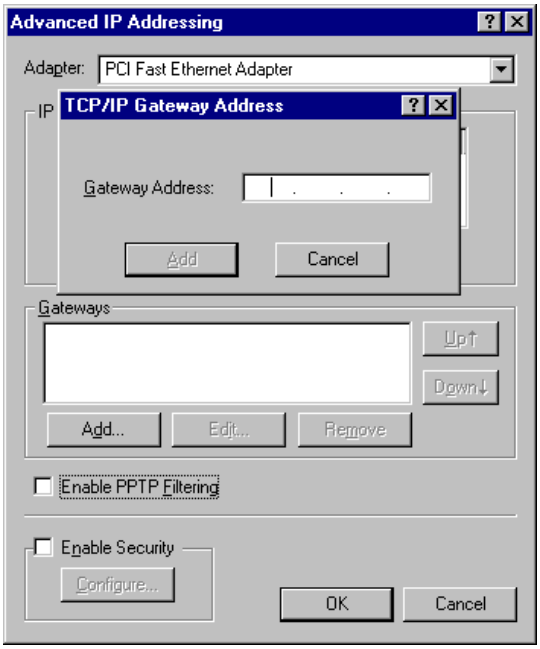
c) Select the appropriate radio button - ***Obtain an IP address from a DHCP Server*** **or** ***Specify an IP Address***, as explained.

Specify an IP Address

If your PC is already configured with an IP address, check with your network administrator before making the following changes.

a) The ***Default Gateway*** must be set to match your network environment. To set this:

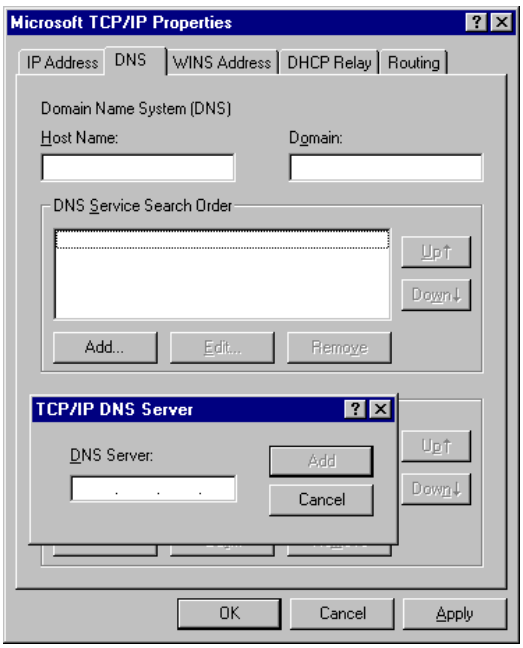
- Click the ***Advanced*** button on the screen above.
- On the following screen, click the ***Add*** button in the ***Gateways*** panel, and enter gateway IP address, as shown below.
- If necessary, use the ***Up*** button to make the inserted on the first entry in the *Gateways* list.



Windows NT4.0 - Add Gateway

b) The DNS should be set to the address provided by your ISP, as follows:

- Click the ***DNS*** tab.
- On the DNS screen, shown below, click the *Add* button (under ***DNS Service Search Order***), and enter the DNS provided by your ISP.

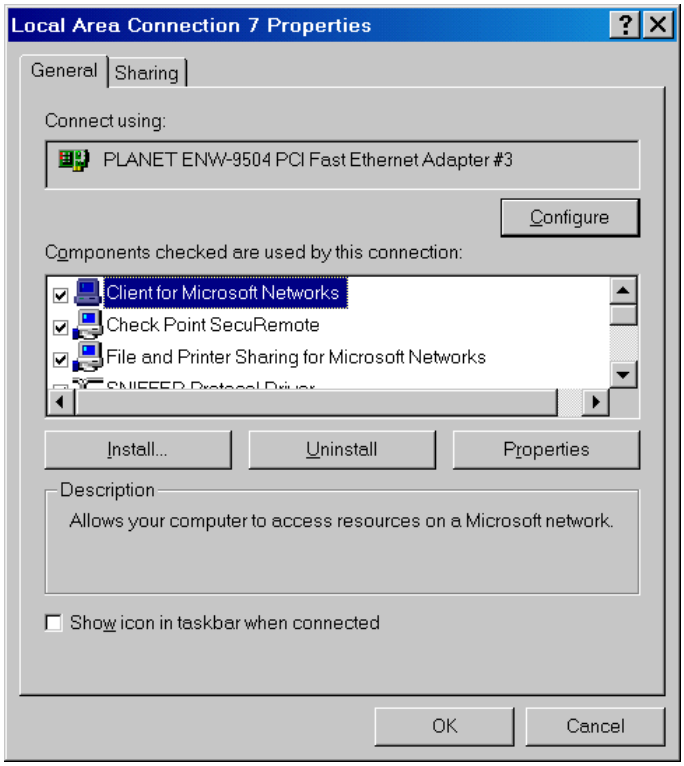


Windows NT4.0 - DNS

Checking TCP/IP Settings - Windows 2000:

Select ***Control Panel*** - ***Network and Dial-up Connection***.

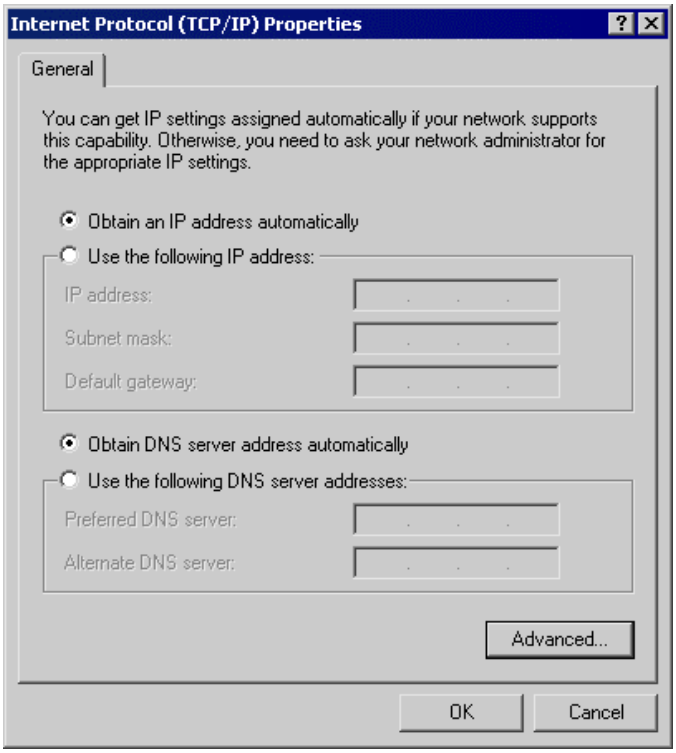
a) Right - click the ***Local Area Connection*** icon and select ***Properties***. You should see a screen like the following:



Network Configuration (Win 2000)

b) Select the ***TCP/IP*** protocol for your network card.

c) Click on the ***Properties*** button. You should then see a screen like the following.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

TCP/IP Properties (Win 2000)

Ensure your TCP/IP settings are correct with one of the following description.

Using DHCP

To use DHCP, select the radio button ***Obtain an IP Address automatically***. This is the default Windows setting. If your networking environment is a DHCP environment, ***Using this option is recommended***. Restart your PC to ensure it obtains an IP Address from DHCP server.

Using a fixed IP Address ("Use the following IP Address")

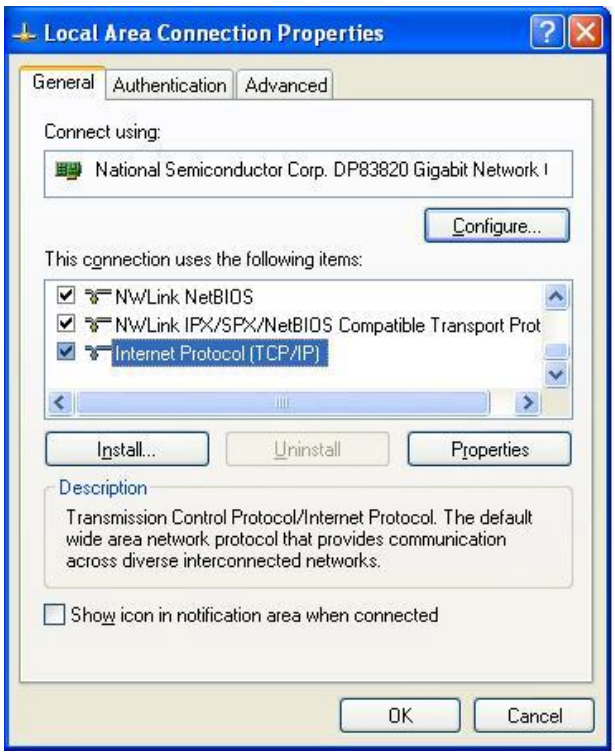
If your PC is already configured, check with your network administrator before making the following changes.

- Enter gateway IP address obtained from network administrator in the ***Default gateway*** field and click ***OK***. If the *DNS Server* fields are empty, select ***Use the following DNS server addresses***, and enter the DNS address obtained from network administrator or addresses provided by your ISP, then click ***OK***.

Checking TCP/IP Settings - Windows XP

Select ***Control Panel*** - ***Network Connection*****.**

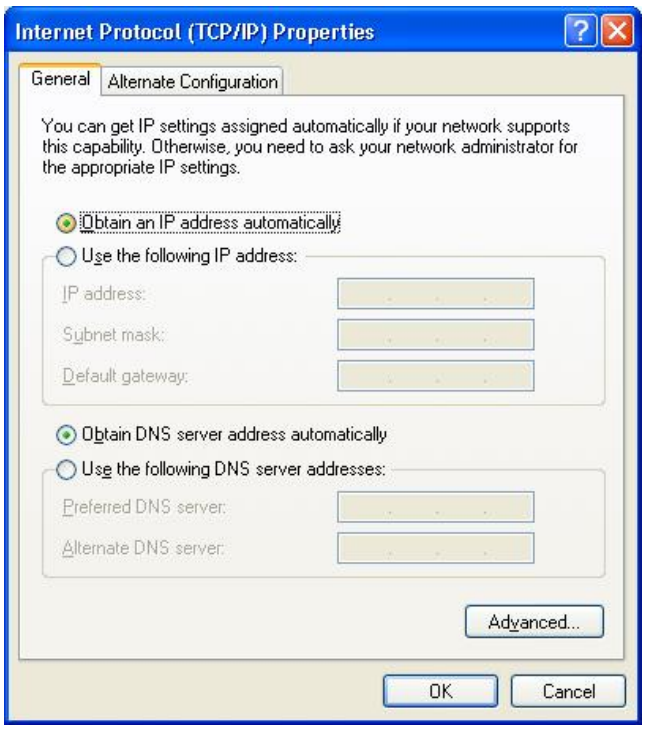
a) Right - click the ***Local Area Connection*** icon and select ***Properties***. You should see a screen like the following:



Network Configuration (Windows XP)

b) Select the ***TCP/IP*** protocol for your network card.

c) Click on the ***Properties*** button. You should then see a screen like the following.


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

TCP/IP Properties (Windows XP)

Ensure your TCP/IP settings are correct with one of the following description.

Using DHCP

To use DHCP, select the radio button ***Obtain an IP Address automatically***. This is the default Windows setting. If your networking environment is a DHCP environment, ***Using this option is recommended***. Restart your PC to ensure it obtains an IP Address from DHCP server.

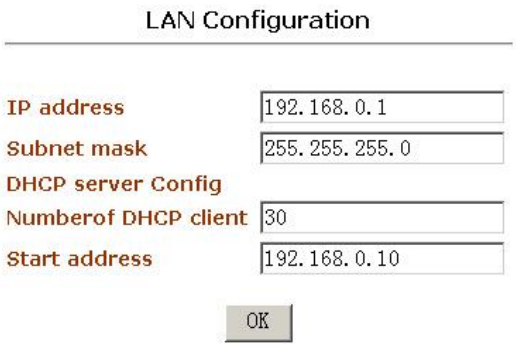
Using a fixed IP Address ("Use the following IP Address")

If your PC is already configured, check with your network administrator before making the following changes.

Enter gateway IP address obtained from network administrator in the ***Default gateway*** field and click ***OK***. If the *DNS Server* fields are empty, select ***Use the following DNS server addresses***, and enter the DNS address obtained from network administrator or addresses provided by your ISP, then click ***OK***.

LAN IP address configuration via web configuration interface

Execute your web browser, and insert the IP address (default: **192.168.0.1**) of VIP in the adddress bar. After logging on machine with username/password (default: **admin** / **123**), browse to "**Internet Access Setup**" --> "**LAN**" configuration menu:



Parameter Description

IP address	LAN IP address of VIP **Default**: 192.168.0.1
Subnet Mask,	LAN mask of VIP-110/VIP-210 **Default**: 255.255.255.0
DHCP server Config	
Number of DHCP Client	VIP-110/VIP-210 is capable of working as a DHCP server, the DHCP client number is the allowed DHCP clients in its network. **Default**: 30
Start address	Beginning IP address of DHCP client IP assignment. **Default**: 192.168.0.10

i Hint

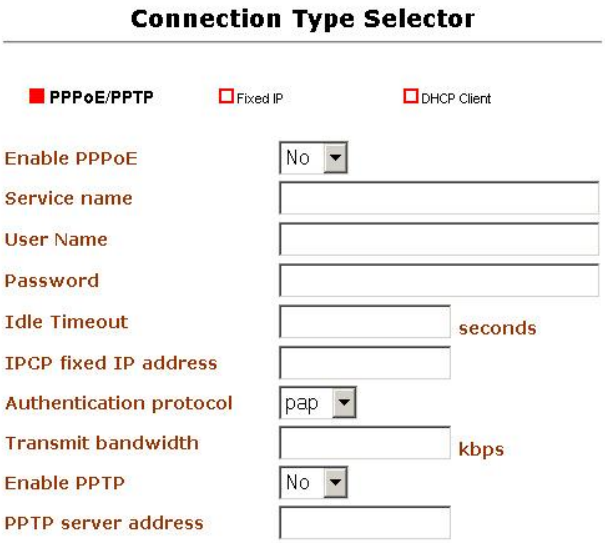
```
It is suggested to keep the DHCP server related parameters
in default state to keep machine in best performance.
If the DHCP server enabled, please make sure VIP-110/VIP-210
is the only DHCP server in the network segment to ensure
machine smooth operations.
```

After confirming the modification you've done, machine will show prompt in the message window.

Please click on the **REBOOT** link to restart machine to macke the changes effective,

WAN IP address configuration via web configuration interface

Execute your web browser, and insert the IP address (default: **192.168.0.1**) of VIP in the adddress bar. After logging on machine with username/password (default: **admin** / **123**), browse to "**Internet Access Setup**" --> "**WAN**" configuration menu, you will see the configuration screen below:



Connection Type	Data required.
DHCP client	Usually, none. But some ISP may require a particular Hostname, Domain name, or MAC (physical) address.
Fixed IP Address	IP Address allocated to you, and related information.
PPPoE / PPTP	PPPoE: Login name/password, service name (optional). PPTP: Server IP Address

i Hint

Please consult your ISP personnel to obtain proper PPPoE/IP address related information, and input carefully.
If Internet connection cannot be established, please check the physical connection or contact the ISP service staff for support information.

Internet Access Setup

Ÿ **When WAN interface of VIP-110/VIP-210 is properly configured, with default Windows TCP/IP settings, no changes need to be made on LAN side PC for Internet access.**

- If using a specified (fixed) IP address on your PC, refer to the user manual for details of the required changes:
  - The *Gateway* must be set to the IP address of VIP-110/VIP-210
  - The *DNS* should be set to the address provided by your ISP.

For Windows 9x/ME/2000

Ÿ Select *Start Menu - Settings - Control Panel - Internet Options*.

Ÿ Select the *Connection* tab, and click the *Setup* button.

Ÿ Select "I want to set up my Internet connection manually, or I want to connect through a local area network (LAN)" and click *Next*.

Ÿ Select "I connect through a local area network (LAN)" and click *Next*.

Ÿ Ensure all of the boxes on the following Local area network Internet Configuration screen are **unchecked**.

Ÿ Check the "No" option when prompted "Do you want to set up an Internet mail account now?".

Ÿ Click *Finish* to close the Internet Connection Wizard.

Setup is now completed.

For Windows XP

Ÿ Select *Start Menu - Control Panel - Network and Internet Connections*.

Ÿ Select *Set up or change your Internet Connection*.

Ÿ Select the *Connection* tab, and click the *Setup* button.

Ÿ Cancel the pop-up "Location Information" screen.

Ÿ Click *Next* on the "New Connection Wizard" screen.

Ÿ Select "Connect to the Internet" and click *Next*.

Ÿ Select "Set up my connection manually" and click *Next*.

Ÿ Check "Connect using a broadband connection that is always on" and click *Next*.

Click *Finish* to close the New Connection Wizard. Setup is now completed.

ì Hint

To verify the Internet connection, you may start ***ping*** command from command prompt to get response from an Internet node/site.

ì Hint

If you're unable to get response from the remote site, please check the following:

VIP-110/VIP-210 is properly installed, LAN connection is OK, and it is powered ON.

You can test the connection by using the "***ping***" command:

ping 192.168.0.1

If no response is received, either the connection is not working, or your PC's IP address is not compatible with VIP-110/VIP-210's IP Address.

If your PC is using a fixed IP Address, its IP Address must be within the range 192.168.0.2 to 192.168.0.254 to be compatible with VIP-110/VIP-210's default IP Address of 192.168.0.1. Also, the Network Mask must be set to 255.255.255.0.Ensure that your PC and VIP-110/VIP-210 are on the same network segment. (If you don't have a router, this must be the case.)

WEB CONFIGURATION

Configuring and monitoring your VIP-110/VIP-210 from web browser

The VIP-110/VIP-210 integrates a web-based graphical user interface that can cover most configurations and machine status monitoring. Via standard, web browser, you can configure and check machine status from anywhere around the world.

Overview on the web interface of VIP-110/VIP-210

With web graphical user interface, you may have:

- **More comprehensive setting feel than traditional command line interface.**
- **Provides user input data fields, check boxes, and for changing machine configuration settings**
- **Displays machine running configuration**

To start VIP-110/VIP-210 web configuration, you must have one of these web browsers installed on computer for management

- **Netscape Communicator 4.03 or higher**
- **Microsoft Internet Explorer 4.01 or higher with Java support**

Manipulation of VIP-110/VIP-210 via web browser

Log on VIP-110/VIP-210 via web browser

After TCP/IP configurations on your PC, you may now open your web browser, and input ***192.168.0.1*** to logon VIP-110/VIP-210 web configuration page.
VIP–110/VIP-210 will prompt for logon username/password: ***admin*** / ***123***

VIP-110/VIP-210 logon page

(Log on VIP-110/VIP-210 via username/password: admin /123)

VIP-110/VIP-210 main page

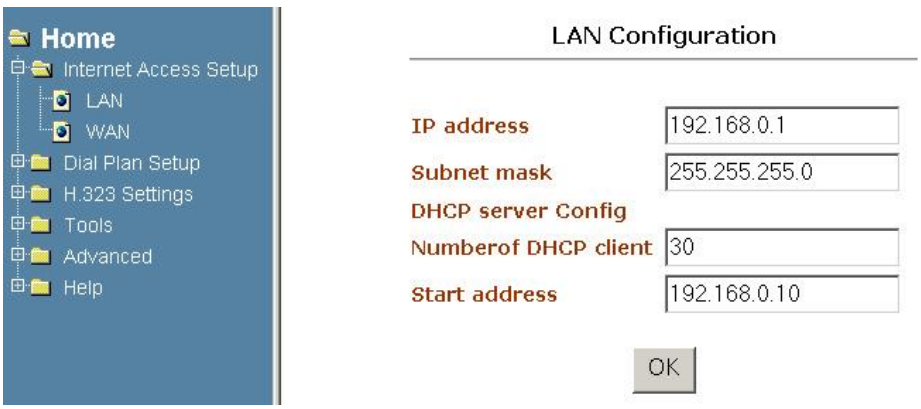
Start administration

When you browse the left control panel in VIP-110/VIP-210 web configuration, the main function menus are listed in the left control panel*:* ***internet Access Setup, Dialplan Setup, H.323 Settings, Tools, Advanced Configuration*** and ***Help Menus.*** These major configuration menus have related sub-menus and parameters, following sections will give you an overall illustration of the functionality in VIP-110/VIP-210.

Internet Access Setup

There are two sub configuration menus in this category:

i. LAN



The ***LAN*** configuration menu is used to configure LAN IP address, and DHCP server related information in VIP-110/VIP-210.

Parameter Description

IP address	LAN IP address of VIP **Default**: 192.168.0.1
Subnet Mask,	LAN mask of VIP-110/VIP-210 **Default**: 255.255.255.0
DHCP server Config	
Number of DHCP Client	VIP-110/VIP-210 is capable of working as a DHCP server, the DHCP client number is the allowed DHCP clients in VIP-110/VIP-210's network.

Default: 30

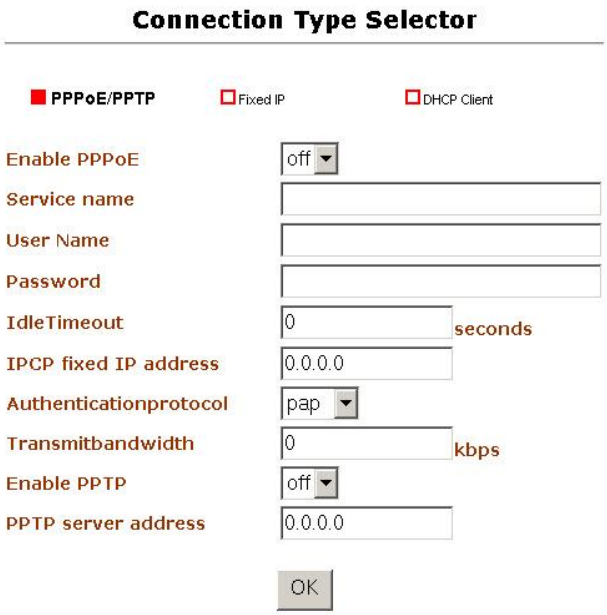
Start address — Beginning IP address of DHCP client IP assignment.

Default: 192.168.0.10

ii. WAN

Four connection types supported in VIP-110/VIP-210: PPPoE/PPTP, Fixed IP, and DHCP

PPPoE/PPTP screen



VIP-110/VIP-210 natively integrates with PPPoE client, this makes VIP-110/VIP-210 is able to establish Internet connection via popular ADSL access. The ***PPPoE/PPTP*** configuration menu is used to configure and PPTP related information in VIP-110/VIP-210.

Parameter Description

Enable PPPoE — Enable or disable PPPoE client in VIP-110/VIP-210

Default: PPPoE client in VIP-110/VIP-210 is disabled

Service name — Some ISP may require a particular service name for Internet access, this field is optional. Please contact your ISP for detail information of this parameter.

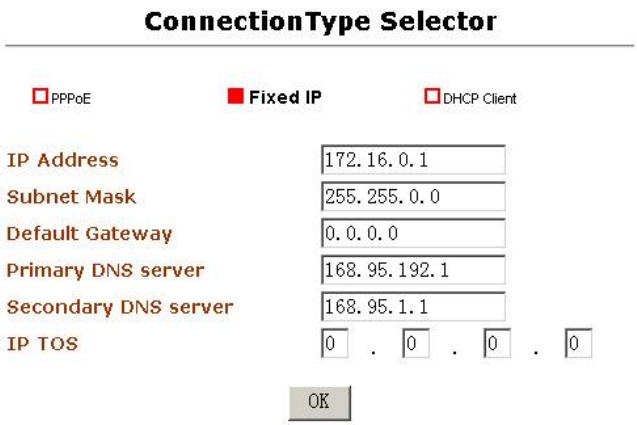
Username — User name for PPPoE connection

	Default: null
Password	Password for PPPoE connection
	Default: null
Idle Timeout	Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the Maximum Idle Time, then it will be dropped.
	Default: null
IPCP Fixed IP	Certain ISP provides a fixed IP address to each of its subscriber. This parameter allows users to setup the fixed IP address assigned by ISP for the PPPoE connection.
	Default: 0.0.0.0
Authentication protocol	VIP-110/VIP-210 implements two types of authentication protocol. This parameter is used for specifying which authentication protocol VIP will use to send authentication message to the server. Default**: pap**
Transmission bandwidth	VIP-110/VIP-210 implements a bandwidth regulation algorithm over its PPPoE interface. This algorithm is enabled, when PPPoE client is enabled, for guaranteeing enough bandwidth is reserved for voice packets
	Default: 0
Enable PPTP	Enable or disable built-in PPTP client
	Default: disabled.
PPTP Server Address	If ISP demands for PPTP connection, please insert PPTP server IP address here.

i Hint

```
Please consult your ISP personnel to obtain proper PPPoE
related information, and input carefully.
If Internet connection cannot be established, please
double-check the parameters configured in VIP-110/VIP-210
or contact the ISP service staff for support information.
```

Fixed IP screen



Parameter Description

IP address — Static (Fixed) WAN IP address of VIP-110/VIP-210

Default: 172.16.0.1

Subnet Mask — WAN interface network mask of VIP-110/VIP-210

Default: 255.255.0.0

Default Gateway — Default gateway of VIP-110/VIP-210 WAN interface

Default: 0.0.0.0

Primary DNS server — First DNS server used for Internet domain name resolution

Default: 0.0.0.0

Secondary DNS server — If the primary DNS server cannot perform domain name resolution, VIP-110/VIP-210 will utilize this server for name resolution. This parameter is optional.

Default: 0.0.0.0

IP ToS for all the packets it sends across the WAN interface. The *Service Type* field is divided into five subfields, among which four subfileds are user configurable. This command is used to set these subfields.

VIP-110/VIP-210 allows users to set the 8-bit *Service Type* field in the IP header

ip_preced The 3-bit PRECEDENCE subfiled ranging from 0

	through 7.
d	The *D* bit subfield, either 0 or 1.
t	The *T* bit subfield, either 0 or 1.
r	The *R* bit subfield, either 0 or 1.

Default: 0 0 0 0

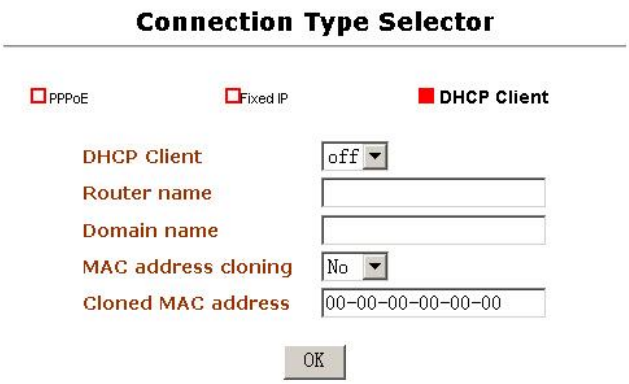
i Hint

Please consult your network administrator or ISP personnel of DNS server IP address for best performance in name resolution. The DNS parameter is a must-have item while making a domain name call.

i Hint

IP ToS field required cooperation from other network peripherals, such as the router, network switch… etc. Please contact your network administrator for proper configurations

DHCP screen



Parameter Description

DHCP client	Enable or disable DHCP client function in VIP-110/VIP-210 **Default**: DHCP client in VIP-110/VIP-210 is disabled
Router name	If your ISP demands a particular Hostname/router name for

`connection setup, please insert the parameter here.`

Default: null

MAC address Cloning

If using a Cable modem, your ISP may have recorded the MAC (physical) address of your PC. Enable the " MAC address Cloning" and fill the desired workstation MAC address in the following parameter to establish Internet access.

Default: off

Cloned MAC address

Some ISPs may require you to use MAC (physical) address for Internet connection. Please enter the MAC address of network interface card on workstation here.

Default: MAC address of WAN interface on VIP-110/VIP-210.

Dial Plan Management

Dial plan in VIP-110/VIP-210 is a database, which contains the Address Translation and Parsing Manager (ATPM) to looks up for translating a dial string to a calling destination. The dial plan management menu allows you to modify and display the dial plan.

Dial plan Concept

Before you start setting up the dial plan in VIP-110/VIP-210, following basic concept associated with the dialplan in VIP-110/VIP-210 should be explained in advance.

- Address Table
- Phone number
- Hunt Group ID
- Destination ID
- Destination

Address Table

The address table maps a phone number to a hunt group. The table contains entries that specify the following information:

- Telephone number
- The hunt group the phone number maps to.
- The minimum number of digits to collect before the ATPM starting address lookup.
- The maximum number of digits the ATPM collects before it considers the dial string is complete.
- Number of digits forward to the destination.

Phone Number

The “Phone number” in the VIP is a set of digits. You can setup it to have better migration with your original system. This number will only map to one Hunt Group.

Number	è	Hunt Group
One	To	One
‘201’	è	‘1’

Hunt Group

The “Hunt Group” here is an interpreter between phone number and Destination ID. VIP phone table will base on the number you dialed to find the related hunt group. So, different numbers can map to the same hunt group.

Number	è	Hunt Group
Many	To	One
‘201’ ‘0201’	è	‘1’

Hunt Group can map to different destinations. This function can be used if the first destination is busy. Once a busy tone is found, VIP will automatically goes to the second Destination, then third, etc..

Hunt Group	è	Destination ID
One	To	Many
‘1’	è	‘1’ ‘9’

Destination ID and Destination

The “Destination ID” here is an interpreter between Hunt Group and physical Destination. Hung Groups can map to the same destination ID.

Hunt Group	è	Destination ID
Many	To	One
‘1’ ‘5’	è	‘1’

The destination here is the physical port that VIP should calls to. There are two types of physical destination.

- A physical port on VIP, i.e. the FXO/FXS port
- A H.323 VoIP gateway with a fixed IP or a fixed host name.

Destination ID	è	Destination
One	To	One
‘1’	è	‘0’
‘10’	è	‘vip.planet.com.tw’

Dial plan/Dial setting Screen

Dial Settings	The Setup screen of the Dial Plan including: • **Telephone Settings**, which allows one to Add, Delete, Find, or List telephone numbers. • **Hunt Group Settings**, which allows one to Add, Delete, Find, or List hunt group settings • **Destination Settings**, which allows one to Add, Delete, Find, or List destination settings
Clear Dial Plan	Clears all telephone numbers, hunt groups, and destinations settings, for both old and new ones
Restore Dial Plan	Retrieves all dial plan settings from the flash while temporary settings will be cleared
Store to NVRAM	Stores all settings that you have specified permanently

Phone number setting screen

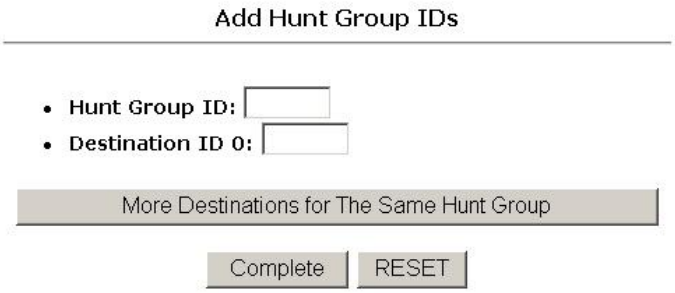
You may modify VIP telephone address table here: you may add (delete, find or list) desired telephone number mapping to hunt group at this menu.

Telephone Number	Telephone number to match. This is only part of the total dialed string.
Hunt Group ID	For each hunt group ID, you need to assign it a unique identifier between 0 and 99.
Min. Digits	Minimum number of digits to be collected before the ATPM starting matching the dial string with entries in the address table.
Max. Digits	Maximum number of digits to be collected before the ATPM starting matching the dialed string with entries in the address table.
Strip Length	The number of digits to be stripped at the beginning of the collected dial string before forwarding the string to the destination.
Append Prefix	(Optional) Digit to be added before the beginning of the collected dial string before forwarding it to the destination.

Hunt Group setting screen

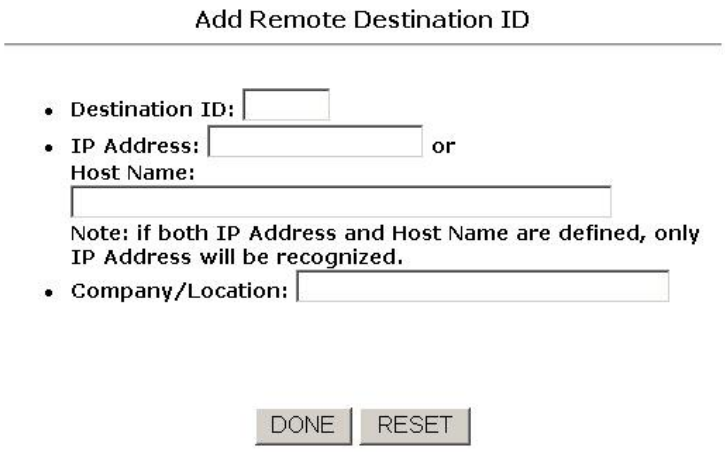
You may modify VIP telephone hunt group table here: you may add (delete, find or list) desired hunt group at this menu.

We can add (delete, find or list) desired hunt group ID mapping to destination ID at this menu. If you want to make the port calls to the secondary receiver, you can click one “More Destinations” you can then add the second, third receiver if the desired port/phone is busy.



Destination setting screen

You may modify VIP telephone destination table here. There are three kinds of destination in the selection table: One is *Remote Destination IP*, one is *Remote Host Name* and the other is *Local Destination Channel*.



Save to NVRAM setting Screen

After Dialplan configurations, you may save the modifications in this menu

Store DialPlan Settings into Flash Memory
Please press "DONE" button to store DialPlan settings into machine.
It is suggested to double-check the settings before committing the modifications.
DONE

Clear Dialplan setting screen

You may clear all the existing dialplan configurations and restore default dialplan configurations in this menu; however, the “clear” action will not take effects until this action is saved into machine via the “***Save to NVRAM***” link.

Clear All Dial Plan Settings
Clear All DialPlan Settings will erase the existing dial plan settings in machine..
Please be advised: this 'Clear All' action is only temporary, all the existing configurations can be recovered clicking "Restore All Entries" button or reboot machine; however if you commit this setting beofore restoring them, all the dialplan settings will be lost !!.
Please double confirm this before erasing the dialplan.
Erase the Dialplan

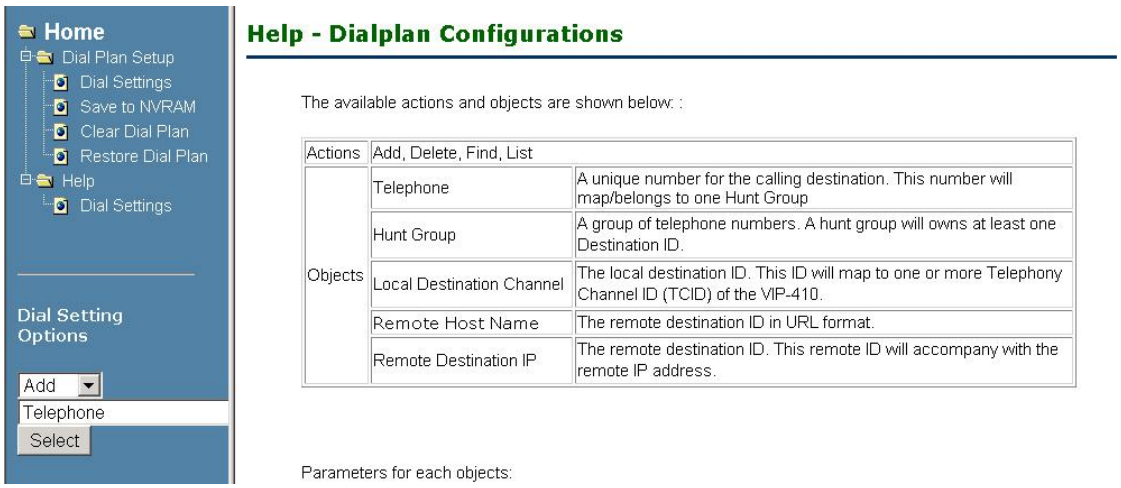
Restore Dialplan setting screen

If the “Restore the Dialplan” button is pressed, all the temporary (not saved) dialplan modifications will be lost.

Restore All Dial Plan Settings
Retrieve all dial plan settings from the flash memory, all temporary settings will be cleared.
Please make sure this action before recovering the dialplan settings.
Restore the Dialplan

i Hint

If you're not familiar with dialplan configurations, you may directly click on the dialplan help menu for more information.

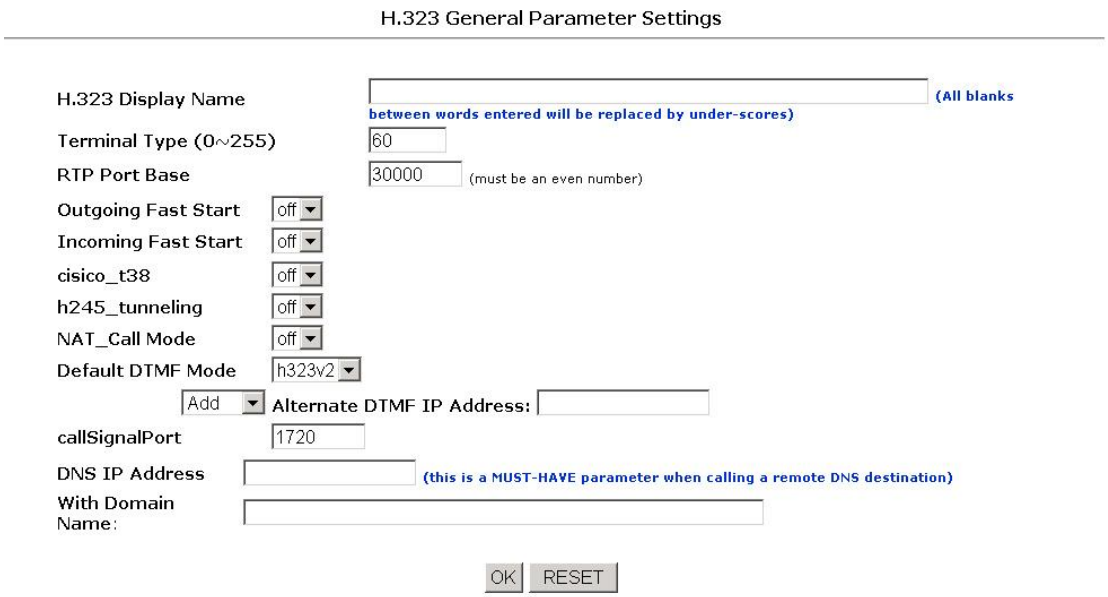

Home
Dial Plan Setup
Dial Settings
Save to NVRAM
Clear Dial Plan
Restore Dial Plan
Help
Dial Settings
Dial Setting Options
Add
Telephone
Select
Help - Dialplan Configurations
The available actions and objects are shown below: :
Actions
Add, Delete, Find, List
Objects
Telephone
A unique number for the calling destination. This number will map/belongs to one Hunt Group
Hunt Group
A group of telephone numbers. A hunt group will owns at least one Destination ID.
Local Destination Channel
The local destination ID. This ID will map to one or more Telephony Channel ID (TCID) of the VIP-410.
Remote Host Name
The remote destination ID in URL format.
Remote Destination IP
The remote destination ID. This remote ID will accompany with the remote IP address.
Parameters for each objects:

Dialplan Help Menu Screen

H.323 Configurations

There are three sub configuration menus: ***General H.323 configuration***, ***Gatekeeper***, and ***H.323 Alias*** configurations in this category:

i. General H.323 Configuration



VIP-110/VIP-210 H.323 configuration page is used to configure H.323 parameters, these parameters are designed to meet most calling environment.

Parameter Description

Display Name	This field is to set the display name information that is carried in the H.323 setup messages. Up to 48 characters can be entered. **Default**: customer
Terminal Type	This field is to set the H.245 terminal type, which is used as part of the master/slave determination process of H.245. Typically, setting a value of less than 50 will force slave operation, and a value of greater than 200 will force the master operation. **Default**: 60
RTP Port Base	This field is to select the starting port number for assignment of RTP and RTCP ports. According to the H.323 specification, RTP port number should be even in value, and the RTCP port number should be one greater than the RTP port. Typically, numbers from 0 to 1023 are reserved on most systems.

Default: 30000

Outgoing Fast Start — This field is to enable or disable the Fast start mode on the outgoing side of the call.

Default: off

Incoming Fast Start — This field is to enable or disable the Fast start mode on the incoming side of the call.

Default: off

NAT_Call Mode — Enables resolve proper calling address from remote sites, which use NAT routers with private IP networks behind.

Default: on

Default DTMF Mode — There are two ways VoIP gateway handles DTMF relay, per H.323 and IMTC specifications.

Default: H323 V2 Signal

Call Signaling port — Allows users to select TCP port which H.225 listens for incoming call setup request.

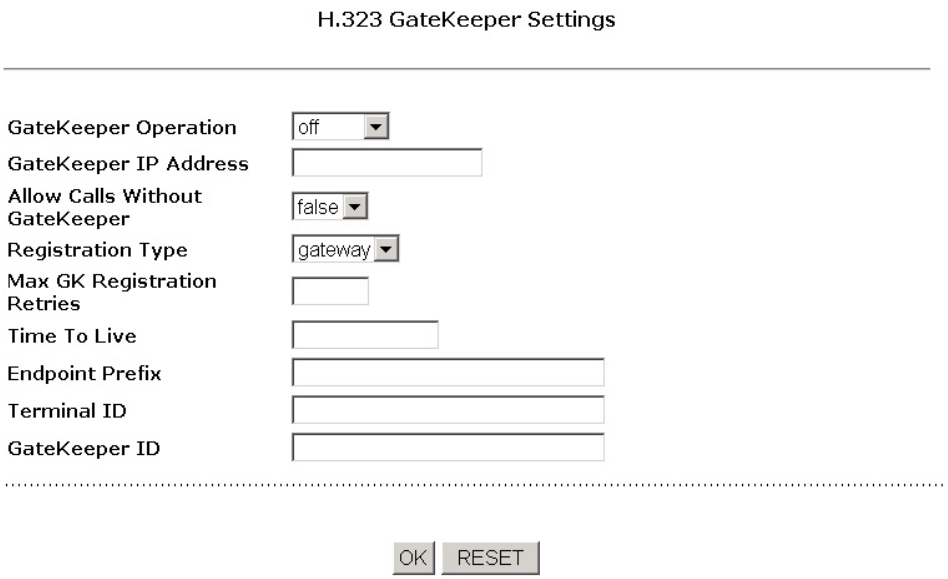
Default: 1720

---

i Hint

It is strongly recommended not to modify these parameters on your own. If you met difficulty to establish communication toward destination call party, please consult ITSP engineering staff, experienced personnel or local distributor support staff for proper configuration.

ii. H.323 Gatekeeper Configuration



Parameter Description

Gatekeeper Operation	Enable or disable H.323 Gatekeeper function in VIP-110/VIP-210 **Default**: Gatekeeper mode in VIP-110/VIP-210 is disabled
Gate Keeper Address	Specify the gatekeeper address when configured to manual mode. When auto mode is desired, this field should be set to auto.
Allow Calls Without Gate Keeper	This field is to inform the H.323 stack to allow calls when the endpoint is not registered with a gatekeeper. **Default**: true
Registration Type	This field is to set the endpoint registration type. This specifies how the endpoint will register itself with the gatekeeper. **Default**: gateway
Max Registration Retries	This field is to control how many registration attempts will be made before the endpoint considers itself to have failed registration. **Default**: 2
Time-to-Live	When the VIP-110/VIP-210 registers to a gatekeeper, it specifies the duration of the validity of the registration in the timeToLive field in the RRQ message it sends to the gatekeeper. The gatekeeper may optionally change the timeToLive by returning a different value in the RCF message it returns to VIP-110/VIP-210 This command

is for setting the timeToLive to be encapsulated in the RRQ message.

Default:0

endpoint_prefix

This command is used to set the H.323 prefix that the VIP-110/VIP-210 will uses when registering to an H.323 gatekeeper. After registering to a gatekeeper using the prefix, the gatekeeper will map all Admission Request with destination matching the prefix to VIP-110/VIP-210.

Default: null

Terminal ID

One of the UUIEs in the H.323 Setup message that the VIP-110/VIP-210 sends to a remote gateway when initiating a call is sourceAddress. The sourceAddress UUIE is a list of alias addresses, by which the remote gateway identifies the VIP-110/VIP-210. This command is used to set a string that the VIP-110/VIP-210 will place in the 1st alias address filed of the sourceAddress UUIE in the H.323 Setup message. This string is also placed in the 1st alias address filed in the terminalAlias filed in RRQ the gateways sends to the gatekeeper for registration.

Default: null

GateKeeper ID

When the VIP-110/VIP-210 registers to a gatekeeper, it specifies the gatekeeper is wishes to register with in the gatekeeperIdentifier field in the RRQ message it sends to the gatekeeper. This command is for setting the string to be placed in the gatekeeperIdentifier field in the RRQ message VIP-110/VIP-210 sends to gatekeeper.

Default: null

i Hint

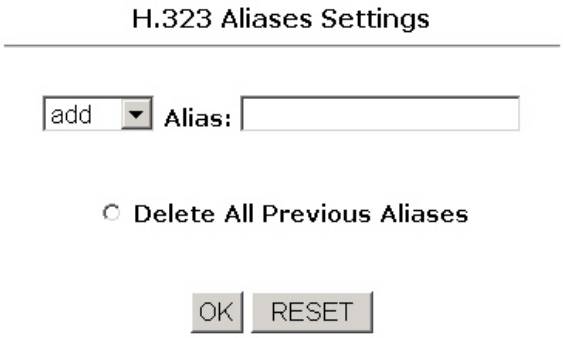
All the modifications you've done in H.323 configuration page require machine reboot to make the changes effective.

i Hint

Please do not modify these parameters without assistance of a VoIP system administrator or ITSP personnel to obtain proper Gatekeeper related information, and input with care.

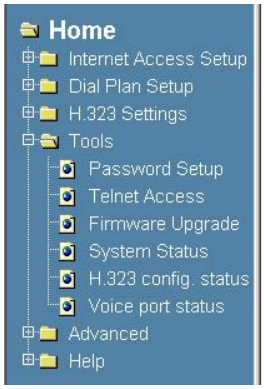
ii. **H.323 Aliases Configuration**

This command is used to create and delete aliases that are registered with the gatekeeper



Tools Menu

VIP-110/VIP-210 provides a utility menu, which can adjust system-wide parameters, such as telnet access, system password, firmware upgrade, and display of system configurations.
There are six sub configuration menus: *Password Setup*, *Telnet Access*, *Firmware Upgrade*, *System Status*, *H.323 Configuration Status*, and *Voice Port status*.

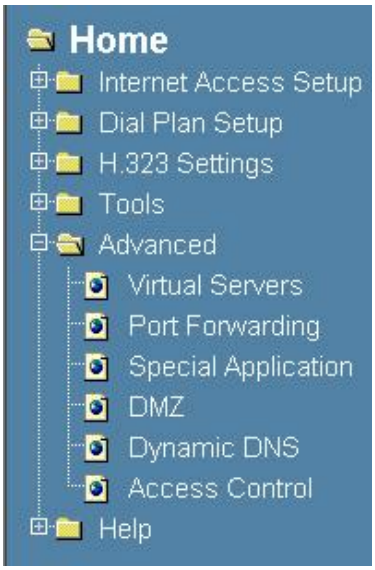


Functionality in each submenu is shown below

Password Setup	VIP-110/VIP-210 system administration password setup. Please keep the admin password securely to prevent improper machine usage.
Telnet Access	You may enable/disable VIP-110/VIP-210 built-in Telnet server or allow a specific IP of Telnet access.
Firmware Upgrade	When receiving firmware upgrade from our web site or local distributor, you may prepare a TFTP server containing the firmware file for firmware upgrade.
System Status	You may display machine running configurations in this page.
H.323 Config. Status	Machine H.323 running configuration can be displayed in this page.
Voice Port Status	You may select a specific voice channel (port) to display parameters on this port.

Advanced Configuration menu

Advanced configuration menu in VIP-110/VIP-210 provides more Internet application compatibility adjustment, which can eliminate inconvenience brought by the NAT algorithm.
There are six sub configuration menus: *Virtual Servers*, *Port Forwarding*, *Special Application*, *DMZ*, *Dynamic DNS*, and *Access Control*.

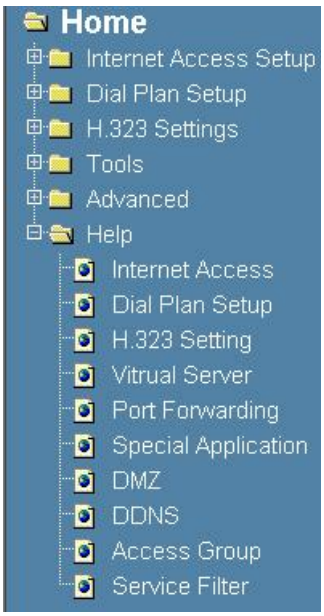


Virtual Servers	If you'd like to share LAN resource with Internet users, Virtual Server can be enabled for this.
Port Forwarding	Similar to Virtual Server, port forwarding can reserve a specific communication port range for application.
Special Application	Special Applications are any Internet applications, which normally cannot work through the built-in firewall. You can try defining application here. If the application can't be made to work, you could also try the "DMZ" feature.
DMZ	DMZ can enable un-restricted, bi-directional communication for Internet applications.
Dynamic DNS	This free service is very useful when combined with the "Virtual Server" feature (or DMZ feature). DDNS allows Internet users to connect to your Virtual Servers (or DMZ PC) using a URL, rather than an IP Address.
Access Controls	Access Control feature allows administrators to restrict Internet access or service by individual workstations. The process uses "Packet Filtering" to block or discard data packets.

Help Menu

VIP-110/VIP-210 integrates online help menu, which can bring brief introduction of each feature in machine. More information can be found in this user's manual or the Command line Reference guide.

You may click on the desired topic to view the help content



Configuration Samples

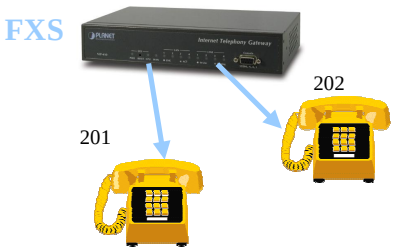
Without any configuration, your VIP is come with following basic information.
Network:

WAN IP: 172.16.0.1, Mask: 255.255.255.0, Gateway: 0.0.0.0
LAN IP: 192.168.0.1, Mask: 255.255.255.0
Mask: 255.255.255.0

Dial Plan:

No.	Hunt Group	Dest. ID	Dest.
201	1	1	0 (local port #1)
202	2	2	1 (local port #2)

Base on this, if you have one VIP-210 with two FXS ports connect to two telephones, say port 1 and port 2, just pick up phone 1 and dial '202', phone 2 should rings.
(G202 ð VIP ð local port #2 ð ( )))



i Hint

You can also check LED indicators on VIP for telephony port status. When an incoming call reaches VIP, the related LED should flash. And after picking up the handset, it should remains on and goes off after the phone is onhook.

VIP to VIP

The previous section shows you how to test your VIP without modify any settings. This section we will shows you how to connect two VIP together and make the call.

Assume that we have a second ITG, called VIP B, which is a VIP-110 with default setting as well. Now, let's setup its WAN IP address to another, e.g. '172.16.0.2' and connect it together to VIP A with the following three steps.

Step 1.

On VIP B:

```
ITG>net set wan ip 172.16.0.2
```

```
ITG>net store
ITG>net reset <confirm prompt and restart machine>.
```

Step 2.

Connect WAN port of VIP A and VIP B to the same switch or hub, please make sure the connection is ready.

Step 3.

On VIP A:

```
ITG>ping 172.16.0.2  ; ping to VIP B
  Ping 172.16.0.2  success
1 out of 1 pings succeeded.
```

VIP B:

```
ITG>ping 172.16.0.1 ; ping to VIP A
  Ping 172.16.0.1  success
1 out of 1 pings succeeded.
```

After the three steps, this means both VIP can find each other.

Now let's setup a remote H.323 gateway to each other.

Dialplan setting on VIP A:

```
ITG>atpm req
ITG>atpm dadd 10 h323 172.16.0.2
ITG>atpm hadd 10 2 10
ITG>atpm aadd 02 0 5 10 2
ITG>atpm done
ITG>atpm store
```

Dialplan setting on VIP B:

```
ITG>atpm req
ITG>atpm dadd 10 h323 172.16.0.1
ITG>atpm hadd 10 2 10
ITG>atpm aadd 01 0 5 10 2
ITG>atpm done
ITG>atpm store
```

The dial plan of the two ITGs adds a new record after those commands.

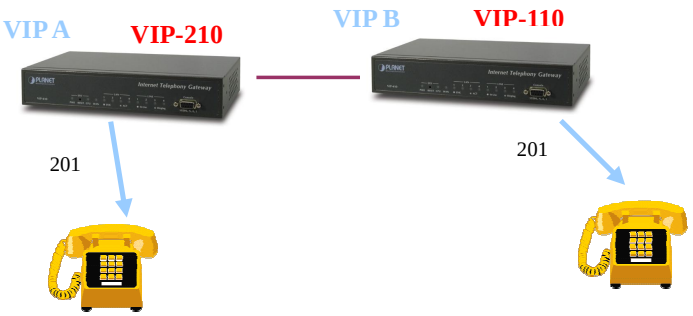
VIP A:

No.	Hunt Group	Dest. ID	Dest.
02	10	10	172.16.0.2

VIP B:

No.	Hunt Group	Dest. ID	Dest.
01	10	10	172.16.0.1

Now, once VIP A get a dialed number "02" it will direct to VIP B. The same to VIP B, '01' will map to VIP A without doubt.



Assume both VIPs have an analog telephone set connected to FXS port #0

To establish the voice communication between these units; .

VIP A:

Pick up handset and dial "02201", where '02' points to VIP B and '201' for port 1 of VIP B. The phone in VIP B should rings.

VIP B:

Pick up handset and dial "01201", where '01' points to VIP A and '201' for port 1 of VIP A. The phone in VIP A should rings.

i Hint

In the example, we assign each VIP with a unique number. It is easier for users to think of it is as like an area code. Each VIP represents a different area. VIP A is with area code 01 and VIP B is with code 02. So, if you have more, you can assign the next VIP with, 03, 04, etc.

i Hint

If you cannot hear the ring, please do make sure:

1) Both VIP can ping each other
2) You are connects to a correct port. In this example, it should be FXS port. And the phone number will be "20X" where X follows the port.
   Make sure you've strip the number in command "atpm aadd"

After all of above, your VIP can work to each other.